

COMPLAINTS OF BAD RAILS ARE NUMEROUS

Steel Corporation and Railroads Disagree as to Where the Blame Should Rest.

TOO MUCH CARBON IN THEM

Which Makes Them Brittle—Suffer Railroads Suggested, but They Wear Out Much Sooner.

The question whether the United States Steel Corporation at least is making safe rails would seem to be no longer open to discussion, says the *Railway Age Gazette*. Complaints by railway managers regarding rail breakages recently have been widespread. This is the railway side of the case. On January 22, testifying before the Senate committee, Mr. Farrell, president of the United States Steel Corporation, said:

"The carbon is so high that we get the brittle rail. It is true that many of these hard rails never break, but the liability to breakage is much greater than in the old time softer rails, and the influence of the unavoidable contingencies of manufacture, such as seams, pipes and segregation, is much greater. In many respects the steel is more doubtful, more dangerous and more treacherous. It is unquestionably, in my judgment, an unsafe grade of steel in view of the severe conditions of service."

This is the official view of the Steel Corporation. When the *Railway Age Gazette*, in an editorial in its issue of December 15, entitled "What Are the Railways Going to Do About Rails?" criticized the rails now in service and being put in service, its statements were challenged by railway men and persons connected with the steel companies. No one seems to challenge them now.

While there is agreement that the rails being made are unsatisfactory from the standpoint of safety, there is disagreement as to why this is so. Mr. Farrell puts all the blame on the roads. He says that, commencing about 1890, they began to ask for higher carbon in rails in order to get greater wear, and that the rail makers, unwisely and many times under protest, made the quality of steel demanded. "Gradually the specifications called for still higher carbon, until today, I believe, the steel is within the danger zone of brittleness." The steel manufacturers, he added, are now dragging "they are dealing with prescriptions from the railway." The implication of all of which is that the steel companies are making rails just as the railways ask them to.

Now, the fact is that over three years ago, after much study and deliberation, the American Railway Engineering and Maintenance of Way Association drew up a specification according to which it believed good rails could be made, and submitted it to the representatives of the steel mills and that the steel companies rejected it. The specifications under which rails are being made now differ in essential particulars from those according to which railway managers indicated to the steel companies they thought they should be made; and at this very time railway engineers are pressing for changes in the specifications—with what results remains to be seen.

As to Mr. Farrell's assertion that the trouble is due to excessive carbon, only three or four large railway systems are having rails made according to specifications in which the carbon varies to any considerable extent from that in the steel companies' own specification. Among these are the Pennsylvania Railroad and the Harriman lines. The Harriman line's specification calls for .07 more carbon than do those generally used, and the Harriman lines are suffering a smaller proportion of rail breakages, according to the statistics on the subject, than most of the railways of the country. Prior to the organization of the United States Steel Corporation in 1901 the specifications in general use provided for .45 to .55

carbon. In 1904 the manufacturers voluntarily adopted a specification which raised the carbon content to .50 to .60. There followed in 1905 and 1906 a flood of bad rails; and it was after protests from the railways that the mills in 1907 adopted the drop test and restored the carbon content to what it was prior to 1904 and has been since.

The investigations and experience of railway engineers have led most of them to believe that the defects of rails which result in breakages are due in much smaller degree to shortcomings of the specifications and chemical composition than to bad mill practices. One road which recently made a careful analysis of over 500 rail failures found that 95 per cent. of them would have been prevented by good practice in manufacture. If the trouble is with the specifications it is inexplicable that under the same specifications one of the Steel Corporation's own largest mills makes rails which break twice as often in proportion as do those made by another of its largest mills. If, on the contrary, rail failures are chiefly due to excessively fast rolling or other defects of mill practice, the fact that the record made by the rails from one of these mills is very much better than that made by those from the other is easily understood.

Mr. Farrell implied that one of the remedies for the situation for the railways to buy heavier rails. But as the statistics we published in an editorial in our issue of January 12 show, breakages of 85, 90 and 100 pound rails are more numerous in proportion than are breakages of 75 and 85 pound rails. He also suggested that the carbon content be reduced, thereby producing a softer rail. He said that a softer rail would not break so easily, but conceded that of course it will wear out faster. He might have added that track laid with soft rails very soon becomes irregular, causing rough riding of trains, which necessitates frequent rail renewals. How much breakages would be reduced by the use of softer rails is uncertain, but that the softer rails would have to be renewed much faster, thereby increasing the operating expenses of the railways—and the earnings of the steel companies—is certain.

Mr. Farrell also said that to get satisfactory rails the roads probably must pay more than \$28 a ton. He unquestionably was right in contending that safety of transportation is more important than cheap transportation, and if, as he asserted, it is necessary for the railways to pay more to get safer rails they ought to do so. Before we conclude that the railways should pay more, however, a glance back into history is desirable. The average price of steel rails in the United States in the ten years from 1890 to 1899 inclusive was \$26.02. In 1894 and 1895 it was \$24, in 1896 it was \$27, in 1897 it was \$18.75, in 1898 it was \$17.62, and in 1901, the year the Steel Corporation was formed, it was \$27.03. In those years the mills gave the railways a guarantee that rails would last at least five years. The roads under the competitive conditions in the steel business then existing could also buy from any mill they liked.

Soon after the Steel Corporation was formed the price was fixed at \$28, and it has stood there ever since, while the prices of other steel and iron products have fluctuated more or less in accordance with supply and demand. The railways were told that it was necessary to charge \$28 to make good rails, the implication being that they would get good rails for this price. A little later the five year guarantee was withdrawn. At about the same time the Steel Corporation put a provision in its contracts that orders for rails might be filled by it from any of its mills that it chose. Meantime the railways and public were being assured that the union of numerous mills by the United States Steel Corporation, and its acquisition of railway lines, steamship lines, ore mine leases, etc., would effect economies in production that would benefit the public much more than did the competitive conditions existing previously in the steel business. Subsequently also Mr. Carnegie and Mr. Schwab, testifying before committees of Congress, have said that steel rails can be made cheaper in the United States than anywhere else on earth; and the

Commissioner of Corporations, Herbert Knox Smith, in a recent report says that the corporation's "book cost" of making Bessemer rails is \$21.27, that, excluding \$2.47 of amortization charges, the revised cost is \$18.80, and that the profit, \$22 a ton is eleven to seventeen per cent. on the investment.

And now, after all this, Mr. Farrell tells the Senate committee that the price of \$28 a ton is inadequate; that the cost of production has been steadily increasing for ten years, until rails can be produced more cheaply abroad than in the United States, and that if the railways are to get good rails they must pay more for them. In view of the foregoing facts we must conclude that the burden of proving that the price of \$28 a ton is inadequate is not on the railways; but that the burden of proving that it is not adequate is clearly on the Steel Corporation. If the cost of production has been steadily increasing, what has become of all the economies which were to result from the formation and operation of the Steel Corporation?

The only way to determine whether it is necessary for the Steel Corporation to get more than, or even as much as, \$28 a ton for rails is to make them, and then open its books and show how much the making of them actually costs. The investigation should not be made by the Commissioner of Corporations or similar bodies, but by the people who know nothing about railmaking and in whose eyes it is easy to throw dust, but by experts. And it should include an inquiry into the expenses involved. For example, the Steel Corporation owns in Minnesota two short ore carrying railways, the Duluth and Iron Range, 168 miles long, and the Duluth, Mesabe and Northern, 193 miles long. In the fiscal year 1910 the gross operating revenues per mile of the Duluth and Iron Range were \$50,000; operating expenses, \$20,720; net operating revenues, \$29,280; operating ratio, 35.5 per cent. The gross operating revenues of the Duluth, Mesabe and Northern per mile were \$48,000; operating expenses, \$14,400; net operating revenues, \$33,600; operating ratio, 29.96 per cent.

In the same year the figures for the Pennsylvania Railroad in the east and the Union Pacific in the west, the two greatest and most prosperous railways in the United States—were as follows: Pennsylvania, gross operating revenues per mile, \$40,000; operating expenses, \$17,500; net operating revenues, \$22,500; operating ratio, 68.75 per cent.; Union Pacific, gross operating revenues per mile, \$11,500; operating expenses, \$7,500; net operating revenues, \$4,000; operating ratio, 50.89 per cent. The figures for the railways of the United States as a whole were: Gross operating revenues per mile, \$11,607; operating expenses, \$7,500; net operating revenues, \$4,107; operating ratio, 66.3 per cent. The figures for the Steel Corporation's railways are out of all proportion to those of the other railways of the country, although, like other railways, they are common carriers; and the rates on ore from which their earnings are derived are higher than those on other commodities.

Mr. Farrell's statement as to the cost of making rails in the United States, while the profits from them go into the Steel Corporation's pockets, is clearly calculated to lead the public to believe that the need for going to the Steel Corporation for rails is a necessity. The price of the Steel Corporation in investigating the price of rails is entitled to receive for rails. The price of rails is a public duty, and it is not entitled to get any larger profits from making them than the railways are from using them. Certainly its rails are not entitled to cost more than the railways' rails. The price of rails is a public duty, and it is not entitled to get any larger profits from making them than the railways are from using them. Certainly its rails are not entitled to cost more than the railways' rails.

Any way, why should it be necessary for the railways to tell the steel companies that they want good rails, and that they want them cheaper, and that they want them made in the United States? The steel companies are playing directly into the hands of those who demand the complete destruction of practical railroads in the United States. The steel companies are playing directly into the hands of those who demand the complete destruction of practical railroads in the United States.

REMARKABLE RISE OF U. S. STEEL CORPORATION

Largest Combination of Capital and Largest Employer of Labor in World.

IT IS NOT 11 YEARS OLD YET

Figures Best Show Its Growth—Has 125,000 Stockholders at Least—Good to Its Men.

The United States Steel Corporation, the largest combination of capital in the world and the largest employer of labor in the world operating under the form of a privately owned corporation, is not yet 11 years old. Its tenth birthday was on March 31, 1911. A few statistics tell the story of its life better than almost anything else.

The extent to which it has grown in the eleven years of its operation is shown perhaps most clearly in the figures which give the additions made to its assets from April 1, 1901, to the end of the year 1910. That addition, after allowances for depreciation and sinking funds, was \$335,170,521. For depreciation and sinking fund purposes during the same period there was set aside \$531,639,000, while the addition to the value of mineral holdings through acquisitions, developments and explorations was \$350,000,000 exclusive of the ore properties owned by the Tennessee Coal and Iron Company and the Hill ore properties, operated under lease.

Up to the end of 1910 the corporation had done \$5,812,243,724 worth of business and had got from that net earnings of \$1,202,214,515. Wages paid to employees were more than net earnings by \$112,000,000. Total dividends and interest paid to security holders were \$654,000,000. The corporation's surplus available for dividends on the common stock has kept up to an average of about 9 per cent. a year.

The balance after charges and before the deduction of dividends has held an average of 20.5 per cent. Capacity of the corporation's plants has been increased by about 80 per cent. without increasing fixed charges to any appreciable extent. Some 85,000,000 tons of finished and semi-finished steel have been turned out and sold by the corporation within that period.

The corporation's business has gone on despite a recent serious downward tendency in steel prices. As compared with 1902 there has been a decrease of some \$4.50 a ton in eight representative classes of steel products. On the basis of, say, 1910 that loss in prices means a reduction in earnings of about 80 per cent. a year. Earnings have been maintained generally in spite of lower prices through greater operating efficiency and production on a larger scale. At the same time operating expenses have greatly increased through higher wages paid to all classes of employees.

The fact that employees have been paid a total greater than the net earnings of the corporation shows how liberal a paymaster our largest industrial company has been. The workmen who in 1902 produced 32 tons and in 1908 38 tons, which shows that the fact that the corporation has been producing a larger percentage of highly finished steel "for sale" in comparison to total output than it was accomplishing at the outset of its career is to a great extent responsible for the failure of the average tonnage of finished steel there has been an increase in that tonnage a man. In 1902

65 tons was established and in following years that figure gained until it reached a high mark of 72 tons in 1906. In 1910, however, it went back to 63 tons, supposedly for special reasons of too technical a nature to be gone into here.

There are many other figures. The corporation's output in the mines was 592 tons in 1902. The increase in that department has been steady to 786 tons in 1910. The coal and coke department has reported a similar gain in efficiency, showing 1,193 tons a man for 1902, 1,554 tons in 1909 and 1,490 in 1910. The average wage increases a ton of steel turned out has not been directly compatible with the movement in production tonnage a man a year. In 1902 the wages on a ton of steel sold were \$14.70 and in 1903 \$16.40. The low price in that particular was in 1905, when labor on a ton of steel cost \$13.80, and the high price was in 1907, with \$19.40. In 1910 the average was around \$16.30. Competent statisticians who have gone into the whole subject of the actual cost of finished products say that in the case of the Steel Corporation the savings effected from concentration of operations, improved methods and machinery and general scientific economies has been offset to a great extent by the increase in wages. Further into detail than that it is almost impossible to go.

The corporation's policy in regard to wages and earnings has been notably promoted by Chairman Gary, who believes just as warmly in reasonable wages as he does in reasonable prices. Had wages in 1910 been the same as they were in 1902 the corporation would have had \$17,000,000 more in its treasury at the end of the fiscal period. On the 1910 wage basis a cut of 5 per cent. in remuneration to all classes of employees would save more than \$8,000,000 a year. But the corporation does not cut wages, because Judge Gary holds that it is wise to maintain at once a high standard of labor and to preserve the best possible organization. After the price of 1907 there was a general movement toward lower wages among the so-called independent steel producing companies. But the Steel Corporation refused to follow that lead and held to its old wage schedules. About a year ago it gave its 225,000 men a substantial raise.

Relations between capital and labor are nowhere so close and so harmonious as in the Steel Corporation. That company has without demand or stimulation from labor spent no end of time and money in devising and putting into operation schemes for old age pensions, voluntary accident relief, stock subscription plans, elimination of Sunday work as far as possible, reduced working hours and the celebrated bonus system. The corporation has had only one strike which amounted to anything, and that was when the organization was very new. Disputes over labor matters have been of minor gravity and have been settled diplomatically and quickly by the officers of the company. One strike, that of the tin plate workers, was over a question of policy rather than wages. The United States Steel Corporation is the one great steel company in the world that is not a closed shop, and still it is successful. It can get on with labor unions or with non-union men. People who have labor troubles study chiefly its methods of keeping turmoil out of the works. Most people think that Judge Gary himself is the secret of the corporation's successful treating with labor.

Recently the Steel Corporation tried to find out exactly how many stockholders it had. After much difficulty \$150,000 was arrived at by Judge Gary. That included employees who own shares. There are, of course, always some 10,000 or 12,000 employees who are paying up on their stock subscription in big sums at a time. Over 25,000 employees own shares outright now. Because they have usually got their shares very cheap, under the market, employees have benefited from their subscriptions to the extent of many millions of dollars. About 15 per cent. of the total stock is held abroad. Most critics ascribe the greatness of the Steel Corporation's stockholders' list to the corporation's policy of publicity and openness of dealing with the heavy capitalization of the company. Steel stockholders get more detailed information about their company than do proprietors of any other great business.

Up to the end of 1910 the corporation spent for new construction about \$362,200,000, and for "extraordinary" replacements about \$113,350,000, a total of over \$475,550,000. That sum, with the excep-

tion of \$60,000,000, was provided from current earnings and surplus. The increase in the corporation's earnings came almost entirely from the great expenditures for new construction. To date there has been spent on the great Gary plant at Gary, Ind., some \$70,000,000. There are many other figures of the great assets of the Steel Corporation. Apparently the best one is that used by W. E. Hazen in his invaluable little book called "A Decade in United States Steel." His figures show an undivided surplus of \$1,000,000,000 at the end of 1910 of \$14,143,157, a balance after deduction of original surplus of \$19,143,157, and a final balance after addition of appropriations from surplus to cover capital expended and construction of \$335,170,521. That sum is equivalent to \$69 a share on the common stock outstanding.

In less than ten years the corporation made an allowance for depreciation of \$531,639,000, or more than 37 per cent. of the present property value of \$1,400,000,000. Steel plant and blast furnace deterioration are charged off at about 10 per cent. a year. With a fifty year life of the plant and blast furnace, depreciation charges on mineral properties are naturally very small. The company's iron tonnage is now larger by some 300,000 tons than it was in 1902, and the time the company started despite the use in ten years of some 200,000,000 tons of material.

Steel prices have declined of late years. Possible tariff changes and overproduction are the two important adverse things which may hurt the steel business of the next decade by lowering prices still further. But the Steel Corporation has built up within a very few years one of the most extraordinary export trades in all commerce. Between 10 and 15 per cent. of its products go abroad. The margin of profit on exported goods is not so high as on goods manufactured for domestic consumption, however.

The Steel Corporation owns over 8,000 miles of railroad. During the navigation season it receives its heaviest earnings from its transportation lines, accounting for the larger earnings in the second and third quarters of the year. In his book mentioned above Mr. Hazen says of railroads and the steel business and of some of the future outlook for the Steel Corporation:

"That the steel companies for the last several years have been laboring under the belief that the railroads would continue to show a heavy increase in consumption is evident from the preparations made for increasing the output of steel rails. Four or five years ago the steel industry in this country had a capacity of between 3,500,000 and 4,000,000 tons a year. To-day the rail capacity of the country is slightly in excess of 4,000,000 tons a year. The country's railroads called for more than 4,000,000 tons. It would seem that with a capacity of 6,000,000 tons, at least one-half of the country's steel capacity should remain idle until the railroads were able to increase their consumption above past requirements. Renewals alone should guarantee the railroads a production averaging more than 3,000,000 tons, as there are in use in this country to-day, according to recent estimates, between 45,000,000 and 50,000,000 tons."

The Steel Corporation's criticism of certain subsidiary companies at prices far beyond intrinsic value. Certainly, interest in the company's ability to maintain permanently even the dividend of 4 per cent. on the preferred stock. The corporation's management has been to eliminate the stock which was injected into the property at organization. Dividends of 4 per cent. a year on the common for a short period after organization were not justified, and warranted criticism. After 1904 the Steel Corporation, with much larger earnings, could have resumed dividends at the old rate, but refused to do so. The corporation's program was for expenditures from earnings for new construction.

In 1908 the management concluded that it was sufficient to come into the property to assure much larger earnings and therefore a better return on the common stock. At the time the corporation placed its stock on a 5 per cent. basis the claim was made that expenditures of \$50,000,000 a year for new construction such a high rate of interest was not warranted. The explanation was that, if necessary, bonds would be issued in depressed periods to cover expenditures for new construction, but with a much larger earning power it was believed that the corporation would have to be issued for construction purposes. The capacity of the Steel Corporation has reached such a high level as to warrant a large dividend on the common stock. Chairman Gary says that close to \$50,000,000 will be spent for new construction this year, a large amount, but it will be used at Gary. This year should wind up the first years at least, excessive outlays for new construction, which have averaged close to \$50,000,000 a year since 1904.

As the independent companies have kept pace with the Steel Corporation in the matter of new construction work, it is probable the steel industry in general will soon begin to cut down its expenditures for new plants, acquisitions, etc.

YEAR OF STRIFE IN THE STEEL INDUSTRY

United States Steel Corporation Now Attacked From Seven Different Angles.

SUIT TO DISSOLVE TRUST

No Decision Likely Within Year—The Steel Business No Longer Prosperity's Barometer.

This is a year of strife in the steel and iron industry. There is strife between the United States Steel Corporation and the independent steel companies in getting business and in cutting prices; strife between the big company and several organizations of the smaller ones on freight rates; strife before the Interstate Commerce Commission on the question of freight rates on ore and iron; strife on tariff questions, on Congressional investigations and labor troubles. Not since the organization of the United States Steel Corporation has there been such a strenuous time as at present or in prospect.

The United States Steel Corporation is attacked from seven different angles. Organized labor urges investigation of labor conditions in the company's plants; wants to know if it is proper for the company to employ convict labor in the Birmingham district, to work more than twelve hours a day in some instances in other mills and continue to turn the cold shoulder to labor organizations. A Congressional committee is anxious to inquire into every phase of the company's business, with the obvious intention of making its practices seem unfair. The Interstate Commerce Commission wants to know whether or not the rates on ore carried by the company's railroads are or are not excessive. The House of Representatives by a big majority has passed a bill reducing the tariff on manufactured steel products. The Finance Committee of the United States Senate is holding hearings on the steel tariff bill passed by the House. The Department of Justice is prosecuting a suit against the company for alleged violation of the Sherman law. Criminal prosecutions under the Sherman law are threatened against some of its officers.

In normal times any one of these seven proceedings would be considered serious enough to absorb most of the time of the company's principal officers. But normal times have not prevailed in recent years.

There has been no reply from the company in regard to the employment of convict labor in the works of the Tennessee Coal and Iron Company. It has been shown, however, that the employment of convict labor was a custom of that company and others in the Birmingham district before the Tennessee Coal and Iron Company was acquired by the Steel Corporation, that the number of convicts has been reduced to 300, which is of course an absolutely insignificant proportion of the total number of employees of the company, and that the determination is to do away with convict labor altogether as soon as current contracts expire.

Otherwise the company has up to the present presented an aggressive defense against the accusations of labor union leaders who have endeavored long though vainly to organize its employees. This defense is based on figures showing the amounts disbursed to employees in bonuses, the details of the company's profit sharing plan, the cooperation of employees in ownership of the stock of the company, and so on. On the whole nothing has been accomplished against the company up to the present in the labor agitation. Its employees remain the best workers against the accusations of labor leaders anywhere in the country.

The Stanley committee, specially appointed by the House of Representatives, has been holding intermittent sessions for the greater part of a year and shows no sign of ending its inquiry. Up to the present it has brought out little that was not known before to everybody who had examined manuals of corporations, the published reports of the company and other documentary evidence accessible to all. In the middle of the committee's investigation the United States Attorney General filed a suit for the dissolution of the company, and subsequently Herbert Knox Smith, Commissioner of Corporations, made a report regarding the company's organization, earning power and legality.

The company made an aggressive defense to the Government's suit for its dissolution, insisting that it had acted in development rather than in restraint of trade. It declared that its power had been used in many instances to the benefit rather than to the injury of its competitors, showed that its percentage of the country's output of steel and iron products had decreased between the time of its organization and the present and maintained that because of its organization the country had been enriched in export trade. The issue having been joined, a speedy trial is expected, but no one expects a decision by the United States Supreme Court within a year.

Just before the suit for dissolution was brought the company served notice of cancellation of the lease of the Great Northern ore lands. It was on account of its ore holdings that the Commissioner of Corporations in his report considered the company a monopoly. The antagonistic force of that report was greatly modified by the abrogation of the lease. The remainder of the report contained little of a hostile character.

Opinions differ as to the effect of the tariff bill as passed by the House of Representatives. Charles M. Schwab, formerly president of the United States Steel Corporation and now president of the Bethlehem Steel Corporation, has said on the witness stand that he would "cash in" his holdings of Bethlehem on the enactment of the bill. Andrew Carnegie has testified that the proposed reductions in duties would harm the industry. From the United States Steel Corporation nothing has been heard either in approval or disapproval of the bill.

All of these controversies in the steel trade had long been expected. The unexpected this year has been the intensity of the strife between the United States Steel Corporation and the independent steel companies. An open market was declared last year and competition for business has since then been keen and aggressive, the entire sum and many of the little ones taking business at or below cost. The steel industry has been considered the most accurate barometer of the prosperity of the country. Under the present unprecedented conditions it is doubtful if it should be regarded.

Did you ever know a really successful manufacturer who bought cheap unreliable raw materials? We know of one but he bought it to make up into pump makers, and ran his machines on the best he could get.

It don't pay to use anything but the best, bought from a reliable manufacturer who thinks more of his reputation than immediate profit. The Chas. A. Schieren Company has followed this policy for the last 40 years with the result that they have not only built up one of the largest belt businesses in the world but are in closer touch with their customers than any other belt company in the country. You can't get a better understanding fully what we mean when we say we stand back of every belt of belting that goes out of our factory, you'll likely remember the complaint, if you ever had one, that was adjusted to your satisfaction and therefore to ours.

The Chas. A. Schieren Company has always done business on liberal lines.

No expense is spared in making our better belting.

For you the best high class belting, grade, made carefully than you would think necessary, and then by the only right method, no matter what time is required or how much unfinished stock we are compelled to keep on hand in order to produce perfect belting leather.

You know there are short, quick methods of tanning that greatly reduce the cost of leather. There are second, third and other low grades of hides that finish up into apparently as good belting as the Schieren kind; time detects cheap methods but only after the belting has been used and paid for. There is no refunding or replacing and the buyer is compelled to accept flimsy excuses for what they're worth.

Schieren's beltings are all guaranteed and the Company is willing and able to replace or repair any belting that proves itself below A quality. We have insured a new help, to belt users, that protect the buyer's seller alike and insure your shop or factory against loss of time through broken belts.

Our "Service Department" will send an expert belt man to any shop using Schieren's belting and teach the one you wish to make responsible for the upkeep of your belting, just how it should be looked after and kept in repair, for it's only by belting able to detect wear in the earliest stages and take it off the greatest saving. This man of ours will give your entire belting a looking over and make any suggestions that would improve its service and lengthen its life irrespective of whose make of belting it is.

One Railway Shop saved \$15,000.00 a year by paying attention to details of this kind. How much do you think you could save, comparing your plant with the average Railway Shop?

This is an age of reducing wasteful losses of all kinds and getting the most out of your plant, and no part of your equipment is as important in this as your belting. The perfection, or imperfection, of your belts determines the amount of H. P. you get from your prime mover, the number of hours each man spends on a machine job, the number of days lost each year through broken and disabled belts. Belting is the important thing. It should be first class to start with and kept first class as long as it's on the job. An extra machine can increase your output in certain ways, a fast workman can do more than a slow one, a machine running at its safe maximum speed will earn many an extra dollar for you and help reduce your overhead expense, a good engine, good boilers, dynamo, etc., etc., good engineer, oilers, firemen and fuel all go to make up the ideal plant, but every part of your whole outfit depends on belting to make good. So you see belting is the most important part of your business and and you can do and you can do a whole lot to reduce wear and breakage affects your business as a whole.

We hope we have made our point clear. We hope you will take us at our word, and call our expert your way, or if you would prefer to send your man to us we will let him tell our factory, where he can see belting being manufactured and have our superintendent tell him anything he wishes to know. In our booklet "There's Money in This" you will find the superintendent of our factory gives, from his many years of experience, enough information about belts to cover the "care of belting" in general, but every now and then we come across a case where rules do not apply and special information is needed. We will gladly let you know anything you wish to ask, if it's about belts.

The Chas. A. Schieren Company

Service Department

Cliff and Ferry Streets

New York

FIGHTING ALCOHOLISM.

An Industrial Problem in Which Europe Is Ahead of Us.

"We always wonder what is going to happen after a holiday," said an officer of a big industrial plant in Germany, "but we are sure that it will be a success, for we know that our men will be sober and ready to work on their feet and come back to their work with untold hands and nerves. We are doing what we can to put something in the place of the corner saloon and are making some headway."

In Europe, experts say, there has been a greater effort for the elimination of the problem of alcohol than in this country. William H. Tolman, director of the Museum of Safety, in a recently published pamphlet on European methods calls attention to them.

"The German Trade Association of private railways, recognizing that many of the accidents in their industry are due to the excessive use of alcohol, issued a special circular to each company," he writes. "They recommended the establishment of rooms where the personnel can rest day and night; the provision of low priced and nourishing food, especially for those employees who cannot take their meals at home; reading rooms and canteens, the latter to have only non-alcoholic drinks; special instruction as to the dangers from the abuse of alcohol, and the location of the driver at the principal stations; penalties for intoxication while on duty and vigilance to prevent its use; a working day not too long; insistence on the part of all superintendents and overseers that each man under them begins his work in a condition of sobriety; the provision of pure and fresh drinking water in all of the rooms where the men rest or stay. It is not enough to provide refreshment places for the personnel, but the utmost vigilance must be exercised to see that the low prices are maintained and that the utensils and rooms are kept scrupulously clean. In taking on new workmen only those who are sober should be engaged. Finally they appeal to the men to help themselves and their fellows by observing the rules and regulations which are laid down for the safety of the public and the protection of the railway service."

"The liability to accidents and the impairment of the health of the workers have always been recognized by the German Imperial Insurance Office. This view is confirmed by its medical staff and experts.

"Rules and regulations for the expulsion of workmen under the influence of liquor from factories and workrooms; homes

for the cure of drunkards, and the distribution of easily comprehended pamphlets. These and many other efforts were made to counteract the evils of intemperance. But in 1905 the Imperial Office felt that a much more aggressive campaign should be undertaken. It fully realized that the results would come slowly and that the expense of doing this in the right way should be no excuse for not pushing the work. Accordingly it sent a circular letter to every industrialist in the empire, through the various trade associations, in which it urged the teaching and instruction of their youth and women workers in regard to the dangers of alcohol; that good drinking water should be provided in mills and factories and a more careful surveillance of the beverages supplied in the convalescents' homes."

The following year the North German Insurance and Trade Association reported to the Imperial Office that they were thoroughly in accord with its recommendations and were greatly impressed with the importance of the whole subject. They have now provided restaurants and buffets for the provision of non-alcoholic drinks at a low cost, have put up posters regarding the abuse of alcohol and have given permission to drink beer only when the workers stopped to eat their first meal and not at any other time.

In the annual report of the same association for 1909 the members were advised of the organization of a Berlin society for the furnishing of warm breakfasts and milk, emphasizing the department for the supply of milk stations in factories. For two and a half cents a soldier's bottle of 4-10 of a litre of milk is sold. Here again the trade association commends the establishment of these factory milk stations as means of lessening the temptation of alcohol, increasing the capacity for work and diminishing the number of accidents.

Based on a long series of studies, Dr. Kurtz of Heidelberg, on the different days of the week, on Wednesday, 62 on Thursday, 62 on Friday, 62 on Saturday. Out of 1,115 assaults coming under his observation, 742 occurred in the saloon, 126 in the street, 137 in work and 110 in places unknown. From this it will be seen that two-thirds of these assaults happened in the saloons, and in the cases where the place was unknown, Dr. Kurtz thinks it probable to assume that they occurred in a drinking place. Likewise he holds the saloon responsible for the origin of many street assaults.

The National League Against Alcohol.

with headquarters at Paris, makes a special appeal to the industrialists, on the ground that the habitual use of alcohol lessens the skill of the workman. In the case of the workman, it becomes a tendency to accidents is augmented, not only for himself but for his fellows. It is a danger to the organs of the body, especially those which have the least power of resistance. The workmen are more often liable to tuberculosis and other diseases, and the nervous system is affected. For the workman who has to go for food, clothing and shelter of the family. It is, therefore, in the interests of the workman, his family, industry and society that the evils of alcoholism should be combated.

The great majority of the community do not appreciate the necessity for rest and recreation. Accordingly, Koerting & Mathieson of Leipzig have built a vacation home in the mountains for the purpose of giving their employees a stay, free, at this holiday home. It is not alone a break from the business of the world for the well. In a few cases, providing there is room, the sick may be received. There are accommodations for 300, the first season being from May to October. Every worker who has been five years with the firm has the privilege of spending two weeks once in every two years. There are so many employees that all could not be taken care of in one season. The families of the married men or those dependent receive a certain sum from the firm while the head of the family is on his vacation. If there should be room at the home the members of the family can be admitted on the payment of a small sum. Any convalescent workman having been with the company one year can have the advantages of the home for a period not to exceed four weeks.